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G6850000680075R

LILYBLAD PETROLEUM
MATERIAL SAFETY DATA SHEET - PAGE 1*****
* SOLVENT 390 *

MSDS # 201003001

ORDERS 89071
MSDS TEST
TACOMA, WA, 98401PEARL SOLVENT
271.15

H dr

HAZARD RATINGS / EMERGENCY CONTACTS

HEALTH: SLIGHT HAZARD (1)
FIRE: MODERATE HAZARD (2)

24 HOUR EMERGENCY ASSISTANCE: CHEMTREC 800-424-9300

SHELL CANADA CHEMICAL 403-691-2220
LILYBLAD PET., DIST. 253-572-4402

EMERGENCY DATA

CHEMICAL SYNONYMS: STANDARD SOLVENT, MINERAL SPIRITS, SHELLSOL 2
CAS NUMBER: MIXTURE

INGREDIENT COMPOSITION

100% - SOLVENT 390 (CAS# 64742-80-7)

HEALTH INFORMATION

SUPPLEMENTAL HEALTH INFORMATION:

PROLONGED AND REPEATED CONTACT WITH SKIN CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. VAPORS ARE MODERATELY IRRITATING TO THE EYES AND RESPIRATORY PASSAGES. PROLONGED EXPOSURE TO HIGH VAPOR CONCENTRATION CAN CAUSE HEADACHE, DIZZINESS, NAUSEA, AND CENTRAL NERVOUS SYSTEM DEPRESSION. IN RARE CASES MAY SENSITIZE HEART MUSCLE CAUSING HEART ARRHYTHMIA. THE LIQUID WHEN ACCIDENTALLY ASPIRATED INTO THE LUNGS CAN CAUSE A SEVERE INFLAMMATION OF THE LUNG. PREEXISTING EYE, SKIN AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

RATIONALS FOR WHMIS TOXICITY CLASSIFICATION:

EXPOSURE MAY OCCUR VIA INHALATION, INGESTION OR THROUGH SKIN CONTACT. THIS PRODUCT IS NOT A PRIMARY SKIN IRRITANT AFTER EXPOSURE OF SHORT DURATION, IS NOT A SKIN SENSITIZER AND IS NOT IRRITATING TO THE EYE. DATA IS INSUFFICIENT TO FURTHER CLASSIFY ACCORDING TO WHMIS CRITERIA.

OCCUPATIONAL EXPOSURE LIMITS

STANDARD SOLVENT: 100 PPM, 525 MG/M3 (7LV/TMA) ACGIH; PEL100 PPM

TOXICOLOGICAL PROPERTIES:

PRODUCT: SOLVENT 390

BAT - ORAL LD50 > 8.0 ML/KG

BAT - DERMAL LD50 > 4.0 ML/KG

BAT - INHALATION LC50 > 1400.0 PPM, 4 HRS.

GCP MSDS # 4572
HAZCODE X
unavailable stk.

P. J. Smith

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EMERGENCY AND FIRST AID PROCEDURES

INHALATION: REMOVE VICTIM FROM FURTHER EXPOSURE AND RESTORE BREATHING, IF REQUIRED. OBTAIN MEDICAL ATTENTION.

EYE CONTACT: FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. OBTAIN MEDICAL ATTENTION AS SOON AS POSSIBLE AFTER FIRST AID HAS BEEN INITIATED AND COMPLETED.

SKIN CONTACT: START RINSING AND REMOVE CONTAMINATED CLOTHING WHILE RINSING. WASH CONTAMINATED SKIN WITH MILD SOAP AND WATER. OBTAIN MEDICAL ATTENTION AS SOON AS POSSIBLE AFTER FIRST AID HAS BEEN INITIATED AND COMPLETED.

INGESTION: OBTAIN MEDICAL ATTENTION IMMEDIATELY. DO NOT INDUCE VOMITING. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GUARD AGAINST ASPIRATION INTO LUNGS BY HAVING THE INDIVIDUAL TURN ON TO THEIR LEFT SIDE. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIP TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS.

NOTES TO PHYSICIAN: THE MAIN HAZARD FOLLOWING ACCIDENTAL INGESTION IS ASPIRATION OF THE LIQUID INTO THE LUNGS PRODUCING CHEM. PNEUMONITIS. CARDIAC ARRYTHMIAS HAVE BEEN REPORTED WITH SOLVENT EXPOSURE. IF MORE THAN 2.0 MG/KG HAS BEEN INGESTED, VOMITING SHOULD BE INDUCED WITH SUPERVISION. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS, OR UNCONSCIOUSNESS OCCUR BEFORE VOMITING, GASTRIC LAVAGE WITH A CUFFED ENDOTRACHEAL TUBE SHOULD BE CONSIDERED.

PHYSICAL DATA

BOILING POINT (DEGREES F.): 315 TO 317 APPROXIMATE

MELTING POINT (DEGREES F.): -4

SPECIFIC GRAVITY (20/20): 0.79 @ 60

% VOLATILE BY VOLUME: NO DATA

SOLUBILITY IN WATER: LESS THAN 0.01 AT 77

EVAPORATION RATE (BUTYL ACETATE=1): LESS THAN 0.1

VAPOR PRESSURE (MM MERCURY): >7.0 @ 38 DEG. C

VAPOR DENSITY (AIR=1.0): 4.4

APPEARANCE AND ODOR: COLORLESS; HYDROCARBON ODOR.

AVERAGE ODOR THRESHOLD: NOT AVAILABLE. PHYSICAL STATE: LIQUID.

FREEZING POINT: NOT AVAILABLE. PH LEVEL: NOT AVAILABLE. MOLECULAR

WEIGHT: NOT AVAILABLE. OTHER SOLVENTS: HYDROCARBON SOLVENTS.

FORMULA: NOT APPLICABLE. PARTITION COEFFICIENT: NOT AVAILABLE.

VISCOSITY (CST @ DEG. C): NOT AVAILABLE.

FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD USED: 42 DEG. C (TCC)

FLAMMABLE LIMITS / % VOLUME IN AIR: UPPER: 0.5, LOWER: 5.0

EXTINGUISHING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, FOAM,

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AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES: CAUTION - COMBUSTIBLE. EXCLUDE AIR. DO NOT ENTER CONFINED FIRE SPACE WITHOUT ADEQUATE PROTECTIVE CLOTHING AND AN APPROVED POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS. USE WATER TO COOL FIRE EXPOSED CONTAINERS. DO NOT USE WATER EXCEPT AS A FOG. UNUSUAL FIRE AND EXPLOSION HAZARDS: AVOID EXCESSIVE HEAT, OPEN FLAMES AND ALL IGNITION SOURCES. VAPOR FORMS AN EXPLOSIVE MIXTURE WITH AIR BETWEEN UPPER AND LOWER FLAMMABLE LIMITS.

REACTIVITY

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID: AVOID CONTACT WITH STRONG OXIDISING AGENTS AND ACIDS. AVOID EXCESSIVE HEAT, OPEN FLAMES AND ALL IGNITION SOURCES.

HAZARDOUS DECOMPOSITION PRODUCTS: VAPOR FORMS A FLAMMABLE/EXPLOSIVE MIXTURE WITH AIR BETWEEN UPPER AND LOWER FLAMMABLE LIMITS. CARBON MONOXIDE AND CARBON DIOXIDE ARE PRODUCED ON COMBUSTION.

EMPLOYEE PROTECTION

RESPIRATORY PROTECTION: IF EXPOSURE EXCEEDS OCCUPATIONAL EXPOSURE LIMITS, WEAR A NIOSH-APPROVED RESPIRATOR. PROPER EQUIPMENT INCLUDES AN APPROVED COMBINATION ORGANIC VAPOR/PARTICULATE FILTER CHEMICAL CARTRIDGE RESPIRATOR FOR LOW CONCENTRATIONS, OR AN ATMOSPHERE-SUPPLIED, POSITIVE PRESSURE DEMAND, SELF-CONTAINED OR AIRLINE BREATHING APPARATUS FOR HIGH CONCENTRATIONS.

PROTECTIVE CLOTHING: CHEMICAL SAFETY GOGGLES AND/OR FULL FACE SHIELD TO PROTECT EYES AND FACE. IF PRODUCT IS HANDLED SUCH THAT IT COULD BE SPLASHED INTO EYES. IMPERVIOUS GLOVES (VITON, NITRILE, PVC) SHOULD BE WORN AT ALL TIMES WHEN HANDLING THIS MATERIAL. IN CONFINED SPACES OR WHERE THE RISK OF SKIN EXPOSURE IS MUCH HIGHER, IMPERVIOUS CLOTHING SHOULD BE WORN.

ADDITIONAL PROTECTIVE MEASURES: MECHANICAL VENTILATION: MECHANICAL VENTILATION IS RECOMMENDED FOR ALL INDOOR SITUATIONS TO CONTROL FUGITIVE EMISSIONS. ELECTRICAL AND MECHANICAL EQUIPMENT SHOULD BE EXPLOSION-PROOF. CONCENTRATIONS IN AIR SHOULD BE MAINTAINED BELOW THE RECOMMENDED THRESHOLD LIMIT VALUE IF UNPROTECTED PERSONNEL ARE INVOLVED. FOR PERSONNEL ENTRY INTO CONFINED SPACES (I.E., BULK STORAGE TANKS), A PROPER CONFINED SPACE ENTRY PROCEDURE MUST BE FOLLOWED INCLUDING VENTILATION AND TESTING OF TANK ATMOSPHERE. LOCAL VENTILATION RECOMMENDED WHERE MECHANICAL VENTILATION IS INEFFECTIVE IN CONTROLLING AIRBORNE CONCENTRATIONS BELOW THE RECOMMENDED OCCUPATIONAL EXPOSURE LIMIT.

MAKE UP AIR SHOULD ALWAYS BE SUPPLIED TO BALANCE AIR EXHAUSTED (EITHER

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GENERALLY OR LOCALLY).

ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES: ISSUE WARNING "COMBUSTIBLE." ELIMINATE ALL IGNITION SOURCES. ISOLATE HAZARD AREA AND RESTRICT ACCESS. TRY TO WORK UP WIND OF SPILL. AVOID DIRECT CONTACT WITH MATERIAL. WEAR APPROPRIATE BREATHING APPARATUS (IF APPLICABLE) AND PROTECTIVE CLOTHING. STOP LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN LAND SPILLS; CONTAIN WATER SPILLS BY BOOMING. FOR LARGE SPILLS REMOVE BY MECHANICAL MEANS AND PLACE IN CONTAINERS. ABSORB RESIDUES OR SMALL SPILLS WITH ABSORBENT MATERIAL AND REMOVE TO NON-LEAKING CONTAINERS FOR DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE. DISPOSE OF RECOVERED MATERIAL AS NOTED BELOW. NOTIFY APPROPRIATE ENVIRONMENTAL AGENCY(IES).

WASTE DISPOSAL: WASTE MANAGEMENT PRIORITIES (DEPENDING ON VOLUME AND CONCENTRATION OF WASTE) ARE: 1. RECYCLE (REPROCESS); 2. ENERGY RECOVERY (CHEMIST KILN, THERMAL POWER GENERATION); 3. INCINERATION; 4. DISPOSAL AT A LICENSED WASTE DISPOSAL FACILITY. DO NOT ATTEMPT TO COMBUST WASTE ON-SITE. INCINERATE AT A LICENSED WASTE DISPOSAL SITE WITH APPROVAL OF ENVIRONMENTAL AUTHORITY.

ENVIRONMENTAL HAZARDS: DO NOT ALLOW PRODUCT OR RUNOFF FROM FIRE CONTROL TO ENTER STORM OR SANITARY SEWERS, LAKES, RIVERS, STREAMS, OR PUBLIC WATERWAYS, BLOCK OFF DRAINS AND DITCHES. PROVINCIAL REGULATIONS REQUIRE AND FEDERAL REGULATIONS MAY REQUIRE THAT ENVIRONMENTAL AND/OR OTHER AGENCIES BE NOTIFIED OF A SPILL INCIDENT. SPILL AREA MUST BE CLEANED AND RESTORED TO ORIGINAL CONDITION OR TO THE SATISFACTION OF AUTHORITIES. MAY BE HARMFUL TO AQUATIC LIFE. NO FOOD CHAIN CONCENTRATION POTENTIAL.

BIODEGRADABILITY... BIODEGRADABLE.

SPECIAL PRECAUTIONS

STORAGE AND HANDLING:

COMBUSTIBLE. STORE IN A COOL, DRY, WELL-VENTILATED AREA, AWAY FROM HEAT AND IGNITION SOURCES. AVOID BREATHING VAPORS AND PROLONGED OR REPEATED CONTACT WITH SKIN. VAPORS MAY ACCUMULATE AND TRAVEL TO DISTANT IGNITION SOURCES AND FLAREBACK. USE EXPLOSION-PROOF VENTILATION TO PREVENT VAPOR ACCUMULATION. EMPTY CONTAINERS MAY CONTAIN HAZARDOUS PRODUCT RESIDUES. FIRED EQUIPMENT, AS WELL AS TRANSFER CONTAINERS AND EQUIPMENT, SHOULD BE GROUNDED TO PREVENT ACCUMULATION OF STATIC CHARGE. LAUNDRY CONTAMINATED CLOTHING PRIOR TO REUSE. USE GOOD PERSONAL HYGIENE.

LABEL INFORMATION:

TRADE NAME: SOLVENT 390
WHIS DESCRIPTION: CLASS B3 COMBUSTIBLE LIQUID.

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SAFE HANDLING:

ELIMINATE ALL IGNITION SOURCES. AVOID PROLONGED EXPOSURE TO VAPORS.
WEAR SUITABLE GLOVES AND EYE PROTECTION. EMPTY CONTAINERS ARE HAZARDOUS,
MAY CONTAIN FLAMMABLE/EXPLOSIVE LIQUID RESIDUE OR VAPORS. KEEP AWAY
FROM SPARKS AND OPEN FLAMES. BURN AND GROUND TRANSFER CONTAINERS AND
EQUIPMENT TO AVOID STATIC ACCUMULATION.

TRANSPORTATION REQUIREMENTS

D.O.T. CLASSIFICATION(S): COMBUSTIBLE LIQUID
D.O.T. PROPER SHIPPING NAME: NAPHTHA, 1, UN1236, POIII, EXEMPT FROM
LABELING, SHIPPING PAPERS, AND PLACARDING REQUIREMENTS IN A NON-BULK
PACKAGE (119 GAL. PER CONTAINER) PER CFR 173.150

OTHER REGULATORY CONTROLS

REGULATIONS AND STANDARDS: NO CANADIAN FEDERAL STANDARDS. THIS
PRODUCT, OR ALL COMPONENTS, ARE LISTED ON THE DOMESTIC SUBSTANCES LIST,
AS REQUIRED UNDER THE CANADIAN ENVIRONMENTAL PROTECTION ACT.

THE INFORMATION CONTAINED IN THIS FORM IS BASED ON DATA FROM SOURCES
CONSIDERED TO BE RELIABLE BUT SMELL CANADA LIMITED DOES NOT
GUARANTEE THE ACCURACY OR COMPLETENESS THEREOF. THE INFORMATION IS
PROVIDED AS A SERVICE TO PERSONS PURCHASING OR USING THE MATERIAL TO
WHICH IT REFERS AND SMELL CANADA EXPRESSLY DISCLAIMS ALL LIABILITY FOR
LOSS OR DAMAGE, INCLUDING CONSEQUENTIAL LOSS, OR FOR INJURY TO PERSONS
(INCLUDING DEATH) ARISING DIRECTLY OR INDIRECTLY FROM RELIANCE UPON
THE INFORMATION OR USE OF THE MATERIAL.

SMELL CANADA CHEMICAL COMPANY
P. O. BOX 100, STATION X
CALGARY, ALBERTA
CANADA
T2P 2H6

PHONE: 403-691-9111

UPDATED: 11-17-99

LILYBLAD PETROLEUM, INC., 2244 PORT OF TACOMA RD., TACOMA, WA 98401

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Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

NSN: G6850000680105RC MSDS 5866

Chevron Supreme Prediluted 50/50 Antifreeze/Coolant

Product Use: Antifreeze/Coolant**Product Number(s):** CPS227801**Company Identification**

ChevronTexaco Global Lubricants

6001 Bollinger Canyon Rd.

San Ramon, CA 94583

United States of America

www.chevron-lubricants.com

\$ 150.15

2 dr.

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

ChevronTexaco Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

Product Informationemail : lubemsds@chevrontexaco.com

Product Information: (800) LUBE TEK

MSDS Requests: (800) 414-6737

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Ethylene Glycol	107-21-1	35 - 50 %weight
Diethylene glycol	111-46-6	1 - 5 %weight

SECTION 3 HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

- HARMFUL OR FATAL IF SWALLOWED
- POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL THAT MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA
- MAY CAUSE DAMAGE TO:
- KIDNEY

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: Toxic; may be harmful or fatal if swallowed.

Inhalation: The vapor or fumes from this material may cause respiratory irritation. Symptoms of respiratory irritation may include coughing and difficulty breathing. Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

DELAYED OR OTHER HEALTH EFFECTS:

Reproduction and Birth Defects: Contains material that may cause birth defects based on animal data.

Target Organs: Contains material that may cause damage to the following organ(s) if swallowed based on animal data:

Kidney

See Section 11 for additional information. Risk depends on duration and level of exposure.

SECTION 4 FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue.

SECTION 5 FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:

OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 2 Flammability: 0 Reactivity: 0

FLAMMABLE PROPERTIES:

Flashpoint: Not Applicable

Autoignition: No Data Available

Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

EXTINGUISHING MEDIA: Dry Chemical, CO₂, AFFF Foam or alcohol resistant foam.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will not burn.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802

as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Wash thoroughly after handling. Do not breathe vapor or fumes.

General Handling Information: Do not taste or swallow antifreeze or solution. Keep out of the reach of children and animals.

General Storage Information: Do not store in open or unlabeled containers.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).

Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors, Dusts and Mists. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Ethylene Glycol	ACGIH	--	--	100 mg/m3	--

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Green

Physical State: Liquid

Odor: Faint or Mild

pH: 11 (Max)

Vapor Pressure: <0.1 mmHg

Vapor Density (Air = 1): 2.1

Boiling Point: 107.8 °C (226°F)

Solubility: Miscible

Freezing Point: -36.7 °C (-34°F)

Specific Gravity: 1.07 @ 15.6 °C (60.1°F) / 15.6°C (60.1°F)

Viscosity: No data available

Evaporation Rate: No Data Available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous Decomposition Products: Ketones (Elevated temperatures), Aldehydes (Elevated temperatures)

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS

Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.

Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.

Skin Sensitization: No product toxicology data available.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

This product contains diethylene glycol (DEG). The estimated oral lethal dose is about 50 cc (1.6 oz) for an adult human. DEG has caused the following effects in laboratory animals: liver abnormalities, kidney damage and blood abnormalities. It has been suggested as a cause of the following effects in humans: liver abnormalities, kidney damage, lung damage and central nervous system damage.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

ENVIRONMENTAL FATE

This material is expected to be readily biodegradable.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: Anti-freeze Preparations, Proprietary << Additional Information: Bulk shipments with a reportable quantity (5000 pounds) of ethylene glycol are a hazardous material. The Proper Shipping Name is: Environmentally Hazardous Substance, Liquid, N.O.S. (ethylene glycol), 9, UN3082, III, RQ (ethylene glycol).>>

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER THE IMDG CODE

ICAO/IATA Shipping Description: Anti-freeze Preparations, Proprietary

SECTION 15 REGULATORY INFORMATION

- EPCRA 311/312 CATEGORIES:** 1. Immediate (Acute) Health Effects: YES
2. Delayed (Chronic) Health Effects: YES
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Diethylene glycol	07
Ethylene Glycol	03, 05, 06, 07

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:

Refer to components listed in Section 2.

WHMIS CLASSIFICATION:

Class D, Division 1, Subdivision B: Toxic Material -
Acute Lethality

Class D, Division 2, Subdivision A: Very Toxic Material -
Teratogenicity and Embryotoxicity

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 2 Flammability: 0 Reactivity: 0

HMIS RATINGS: Health: 2* Flammability: 0 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *-Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:

Label Category : ANTIFREEZE/COOLANT 1

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet:
2,3,4,5,14,15,16

Revision Date: 10/07/2004

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - ChevronTexaco	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

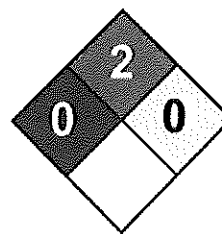
Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the ChevronTexaco Energy Research & Technology Company, 100 Chevron Way, Richmond, California 94802.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.



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\$ 375.83



Health	2
Fire	2
Reactivity	0
Personal Protection	H

Material Safety Data Sheet

Kerosene MSDS

2 dr

Section 1: Chemical Product and Company Identification

Product Name: Kerosene

Catalog Codes: SLK1048

CAS#: 8008-20-6 or 64742-81-0

RTECS: OA5500000

TSCA: TSCA 8(b) inventory: Kerosene

CI#: Not available.

Synonym: Astral Oil; Coal Oil, Fuel Oil No. 5, Deobase, Astral Oil, Jet A Fuel; Jet Fuel JP-1; JP-5 Navy Fuel; Kerosine, petroleum; Range Oil; K1 Kerosene; Kerosene, hydrosulfurized; Kerosine

Chemical Name: Kerosene

Chemical Formula: Not available.

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: 1-800-901-7247

International Sales: 1-281-441-4400

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Kerosene	8008-20-6 or 64742-81-0	100

Toxicological Data on Ingredients: Kerosene: ORAL (LD50): Acute: 15000 mg/kg [Rat]. 20000 mg/kg [Guinea pig]. 2835 mg/kg [Rabbit].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator). Severe over-exposure can result in death.

Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to the nervous system. The substance may be toxic to blood, kidneys, liver, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

If swallowed, do NOT induce vomiting. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 210°C (410°F)

Flash Points: CLOSED CUP: 38°C (100.4°F). (Tagliabue.)

Flammable Limits: LOWER: 0.7% UPPER: 5% - 7%

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Flammable in presence of open flames and sparks, of heat.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

Flammable liquid, insoluble in water. **SMALL FIRE:** Use DRY chemical powder. **LARGE FIRE:** Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:

Toxic flammable liquid, insoluble or very slightly soluble in water. Poisonous liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

Section 7: Handling and Storage

Precautions:

Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.

Storage:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid. (Oily liquid.)

Odor: Not available.

Taste: Not available.

Molecular Weight: Not available.

Color: Yellow. Clear (Light.)

pH (1% soln/water): Not applicable.

Boiling Point: 149°C (300.2°F) - 325 C

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: 0.775 - .840(Water = 1)

Vapor Pressure: 0.1 kPa (@ 20°C)

Vapor Density: 4.5 (Air = 1)

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility:

Insoluble in cold water, hot water. Miscible with other petroleum solvents

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources (sparks, flames), incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Not considered to be corrosive for metals and glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact.

Toxicity to Animals: Acute oral toxicity (LD50): 2835 mg/kg [Rabbit].

Chronic Effects on Humans:

MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. Causes damage to the following organs: the nervous system. May cause damage to the following organs: blood, kidneys, liver, central nervous system (CNS).

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant), of ingestion, of inhalation (lung irritant). Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: May affect genetic material (mutagenic)

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes moderate to severe skin irritation. It can cause defatting dermatitis. Eyes: May cause eye irritation. Inhalation: May cause respiratory tract and mucous membrane irritation and a burning sensation in the chest. Because of its relatively low volatility, overexposure by inhalation is uncommon, but it can occur in poorly ventilated areas or by inhalation of mists or aerosols. Symptoms of inhalation overexposure include central nervous system (CNS) depression (transient euphoria, headache, irritability, excitement, ringing in the ears, weakness, incoordination, confusion, disorientation, drowsiness, tremor, somnolence, hallucinations, seizures, coma, death). May affect the heart (cardiac arrhythmias), liver, kidneys, and respiration (asphyxia, apnea, acute pulmonary edema, dyspnea, fibrosis, or cyanosis). Ingestion: Causes gastrointestinal tract irritation with burning sensation in mouth, esophagus, and stomach, abdominal pain, nausea, vomiting, hypermotility, diarrhea, headache, malaise. May affect respiration/trachea/bronchi through accidental pulmonary aspiration which can cause hypoxia, chemical pneumonitis, and noncardiogenic pulmonary edema, pulmonary hemorrhage, coughing, breathing difficulty, acute or chronic pulmonary edema, emphysema, respiratory stimulation. It may also affect the heart (dysrhythmias, myocardial depression, tachycardia), liver, endocrine system (pancreas - hypoglycemia), behavior/central nervous system (symptoms similar to that of inhalation). **Chronic Potential Health Effects:** Inhalation: Repeated or prolonged inhalation may cause respiratory tract irritation and affect behavior/central nervous system with symptoms similar to that of acute inhalation. It may also affect the blood (changes in white blood cell count, changes in serum composition, pigmented or nucleated red blood cells, leukopenia, normocytic anemia), cardiovascular

system, respiratory system (trachea, bronchi), and may cause kidney damage. Ingestion: Repeated or prolonged ingestion may affect the liver, endocrine system (adrenal gland, pancreas, spleen), and metabolism (weight loss), and blood. Skin: Repeated or prolonged skin contact may cause defatting dermatitis, erythema, and eczema-like skin lesions, drying and cracking of the skin, and possible burns.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: Not available.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Kerosene UNNA: 1223 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

Connecticut hazardous material survey.: Kerosene Rhode Island RTK hazardous substances: Kerosene Pennsylvania RTK: Kerosene Massachusetts RTK: Kerosene Massachusetts spill list: Kerosene New Jersey: Kerosene TSCA 8(b) inventory: Kerosene

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):

R10- Flammable. R65- Harmful: may cause lung damage if swallowed. S23- Do not breathe gas/fumes/vapour/spray S24- Avoid contact with skin. S62- If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 2

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 0

Flammability: 2

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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